

Translation

PATENT COOPERATION TREATY

PCT/EP2003/004075



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

16 OCT 2004

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P4020PWO-R/Bi	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/004075	International filing date (day/month/year) 17 April 2003 (17.04.2003)	Priority date (day/month/year) 19 April 2002 (19.04.2002)
International Patent Classification (IPC) or national classification and IPC B23P 19/06, F16B 37/06		
Applicant PROFIL VERBINDUNGSTECHNIK GMBH & CO. KG		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>15</u> sheets.
3.	This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 09 September 2003 (09.09.2003)	Date of completion of this report 23 July 2004 (23.07.2004)
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/EP2003/004075

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 7-20, as originally filed
 pages _____, filed with the demand
 pages 1-6, filed with the letter of 29 December 2003 (29.12.2003)
- ☒ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages 1-31, filed with the letter of 29 December 2003 (29.12.2003)
- ☒ the drawings:
 pages 1/5-5/5, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
 These elements were available or furnished to this Authority in the following language _____ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☒ the claims, Nos. 32-36
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Publication No.
PCT/EP 93/04075

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-31	YES
	Claims		NO
Inventive step (IS)	Claims	1-31	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-31	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following document:

D4: DE 38 35 566 A (PROFIL VERBINDUNGSTECHNIK GMBH)
11 May 1989.

1. The subject matter of claim 1 is novel (PCT Article 33(2)) since none of the cited documents describe a functional element in which the diameter of the cylindrical part at the boundary with the conical region is no greater than the maximum diameter of the conical region and, in consequence, an annular flange is not formed at this point.
2. Document D4 is considered the prior art closest to the subject matter of claim 1. Said document discloses (the references between parentheses relate to D4):

a functional element for mounting on a sheet metal part, said element comprising a body part, or a head part, (abstract) which has a cylindrical part at its first axial end and, at its other axial end, merges into the form of a cylindrical rivet section (figure 4), said body part being provided with an at

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least substantially conical region in the region between the first axial end and the rivet section, and said conical region forming a contact surface for a corresponding conical region of a sheet metal part (figure 4).

Thus, the subject matter of claim 1 differs from the known functional element in that, at the boundary with the conical region, the diameter of the cylindrical part is no greater than the maximum diameter of the conical region and, in consequence, an annular flange is not formed at this point.

The problem addressed by the present invention can thus be regarded as that of precluding the formation of fatigue cracks in the sheet metal part.

The solution to this problem, as proposed in claim 1 of the present application, involves an inventive step (PCT Article 33(3)) since the combination of features in independent claim 1 is not known from the available prior art, nor is it obvious therefrom.

3. Independent claim 17 relates to an assembled part consisting of a functional element and a sheet metal part, said functional element also comprising the feature that, at the boundary with the conical region, the diameter of the cylindrical part is no greater than the maximum diameter of the conical region and, in consequence, an annular flange is not formed at this point. The subject matter of claim 17 is therefore also novel and inventive.

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